### REMARKS

Applicants appreciate the Examiner's participation in a telephonic interview conducted on March 27, 2003 during which some proposed amendments were discussed.

### Claim Amendments

Applicants have cancelled Claims 1-56 and 59 to expedite prosecution of the application, but reserve the right to file a continuing or divisional application, or take such other appropriate action as deemed necessary to protect the invention as claimed in Claims 1-56 and 59.

Claims 57 and 58 have been amended, and new Claim 60 added. These claims are directed to compositions that consist of, or consist essentially of, the two cytokines GDNF and TGF-B.

Support for these amendments can be found throughout the specification, for example, at page 13, line 9 through page 14, line 8 and Figures 6A-D.

# Rejection of Claims 1, 2, 5, 16 and 57-59 Under 35 U.S.C. §102(b)

Claims 1, 2, 5, 16 and 57-59 are rejected by the Examiner under 35 U.S.C. §102(b) as being anticipated by Goulin et al. (J. Neurosci. Res. February 15, 1996).

In light of Applicants' cancellation of Claims 1, 2, 5, 16 and 59, the rejection of these claims is moot. With respect to Claims 57 and 58, Applicants respectfully disagree. Goulin et al discloses the following compositions:

- NGF + FGF-2 (for example, at p. 459) (i)
- CNTF + FGF-2 (for example, at p. 459) (ii)
- TGF $\beta$ 3 + FGF-2 (for example, at p. 459, 460) (iii)
- GDNF +FGF-2 (for example, at p. 460) (iv)
- TGF\$3 +GDNF + FGF-2 (for example, at p. 461) (v)

Claims 57 and 58, as amended, recite a "composition having synergistic neurotrophic activity consisting of two cytokines, wherein the two cytokines are GDNF and TGF- $\beta$ ...." Applicants amendment to recite 'two cytokines' is to further make clear that GDNF and TGF- $\beta$  are cytokines, although this was already well known to one of ordinary skill in the art at the time of filing of the application. Goulin et al. do not disclose a composition consisting of GDNF and TGF-β, thus Goulin et al. does not anticipate Claims 57 and 58, as amended.

09/527,275

Furthermore, the Examiner has stated that the serum-free culture medium of Goulin et al. is a pharmaceutically-acceptable carrier, diluent, or any combination thereof (Office Action, page 3). However, Applicants respectfully disagree because one of ordinary skill in the art would not consider complete basal medium containing, inter ulia, insulin, sodium selenite, progesterone, putrescine, penicillin and streptomycin (page 455, column 1-2, bridging paragraph) a pharmaceutically-acceptable carrier or diluent. The combination of these hormones and antibiotics together with putrescine (defined in Stedman's Medical Dictionary, 26th Edition, as "a poisonous polyamine", attached as Exhibit A) and sodium selenite (which, in high quantities is known to be toxic, see the Material Safety Data Sheet obtained from Sigma Chemical Co., attached as Exhibit B), would not be considered a pharmaceutically-acceptable carrier or diluent by one of ordinary skill in the art.

Reconsideration and withdrawal of the rejection are respectfully requested.

# Rejection of Claim 59 Under 35 U.S.C. §112, Second Paragraph

Claim 59 is rejected by the Examiner under 35 U.S.C. §112, Second Paragraph "as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention." In view of Applicants' cancellation of Claim 59, the rejection is moot.

## Provisional Double-Patenting Objection

The Examiner advised the Applicants that should Claim 57 be found allowable, Claim 59 will be "objected to under 37 C.F.R. 1.75 as being a substantial duplicate thereof." As noted above, Applicants have cancelled Claim 59, thus the rejection is moot.

-5-

### CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned at (978) 341-0036.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By Dares M. Hogh

Doreen M. Hogle

Registration No. 36,361 Telephone: (978) 341-0036 Facsimile: (978) 341-0136

Concord, MA 01742-9133

Dated: March 31, 2003

-i-

# MARKED UP VERSION OF AMENDMENTS

# Claim Amendments Under 37 C.F.R. § 1.121(c)(1)(ii)

- 57. (Twice Amended) A composition having a synergistic neurotrophic activity[, comprising] consisting of two cytokines, wherein the two cytokines are GDNF and TGF-β, or functionally active derivatives or parts thereof.
- 58. (Twice Amended) A composition having a synergistic neurotrophic activity[, comprising]

  consisting of two cytokines, wherein the two cytokines are GDNF and TGF-β, or functionally active derivatives or parts thereof, and further comprising a pharmaceutically acceptable carrier, diluent or any combination thereof.

# 26th Edition

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EXHIBIT

ms of the subcutaneous and subtrucous tissues, san petechial

Henoch's p. syn Henoch-Schonicin p

Henoch-Schönlein p., an emption of nonthrombocytopenic purpuric lesions due to dermal leukocytoclastic vasculitis with IgA in vessel walls associated with joint pain and swelling, colic, and passage of bloody stools, and occurring characteristically in young children; glomerulonephnus may occur during un initial episode or develop later SYN acute vascular p., anaphylactoid p. (2). hemormagic acudative crythema, Henoch's p., Henoch-Schonlein syndrome, p. nervosa, p. meumanca, Schonlein's disease, Schonlein's P., Schonlein-Henoch syndrome.

hyperglobulinemic p., syx Waldenaltom's mucroglobulinemic. idiopathic thrombocytopenic p. (ITP), a systemic illness charactenized by extensive ecchymoses and hemorrhages from inucous membranes and very low placelet counts; resulting from placet destruction by macrophages due to an antiplatelet factor; childhood cases are usually brief and rarely present with intracrunial hemonthages, but adult cases are often recurrent and have a higher incidence of grave bleeding, especially intracranial, 54% immune thrombocytopenic p., p. hemorrhagica (1), thrombope-

immune thrombocytopenic p., 5YN idiopathic thrombocytope-

p. iodica, iodic p., an eruption of aiscrete miliary petechius, usually confined to the lower extremities, appearing in ture instances on administration of any of the iodides.

p. nervo's, syn Henoch-Schonlein p

nonthromborytopenic p., syn p symplex.

psychogenic p., syn autocrythrocyte sensinzation syndrome. p. pulicans, p. pulico'sa, petechiae caused by the bites of in-

secis and animal parabiles. p. rheumarica, syn Henoch-Schonlein p.

Schoolein's Pasta Hennen-Schoolein P. p. seni its, the occurrence of personne and ecohymoses on the arrophic skin of the legs in aged and debilitated subjects.

p. simplex, the eruption of petechine or larger eachymoses. usually unaccompanied by constitutional symptoms and not associated with systemic illiness syn nonthrombocytopenic p.

p. symptomatica, a petechnal eruption in scarlet fever and other

thrombocytopenic p., see idiopathic thrombocytopenic p.

thrombopenic p., SYN ideopathic thrombocytopenic p

thrombotic thrombocytopenic p., a rapidly famil or occasionally protracted disease with varied symptoms in addition to p., including signs of zentral nervous system involvement, due to formation of fibrin or platelet thrombi in atterioles and capillarics in many organs syn Moschcowic disease.

p. uru cans, p. simplex accompanied by an urucarial eruption. Waldenstrom's P., SYN Waldenstrom's macroglobulinemia.

pur pu rea gly co sides A, pur pu rea gly co sides B (per puried gired sides. The cardioactive precursor glycosides of Digurdus purpured; they are structurally identical with desacetyllanatosides A and B, respectively. SEE ALSO lanatosides A, B, and

pur pu ric (pur-pa'rik). Relating to or affected with purpura pur pu rin (per pyd-rin). 1. syn uroerythin. 2 [C.I. 58205]. A violet stain related to alizarin by addition of a 4-OH group to alizann; found in madder root and other members of the Rubuccae; used to detect calcium salts, boron, and us a histological sign syn alizarin purpunn.

pur pu ri nu ria (per pyú-n-nú re-à) syn porphyrinuria. PILIT (per). A low vibratory murmur syn fremissement carraire. Purtscher, Otmar, German ophthalmologist, 1852-1927. see

po ru lence, pu ru len cy (pyūro-lens, -len-sē: pyūryū-lens). The condition of containing or forming pus. [L. purulentiu. a

pu-ru-lent (pyuru-lent, pyuryu-). Containing, consisting of, or

pu ru loid (pyū'nā-loy4). Resembling pus.

pus (pus). A fluid product of inflammation, consisting of a liquid containing leukocytes and the debris of dead cells and tissue elements liquefied by the proteolytic and histolytic enzymes (e.g., leukoprotease) that are elaborated by polymorphanucles

blue p., p. ringed with pyocyanin, a product of Pseudomonar

cheesy p., a very thick almost solid p. resulting from the absorpnon of the liquor puris.

curdy p., p containing flukes of casoous matter.

green p., blue p. when, as sometimes happens, it has more of a green hue.

ichorous p., thin p. containing shreds of sloughing tissue and sometimes of a fetid odor.

laudable p., an obsolute term used when suppuration was considered unlikely to lead to pyemia (blood poisoning) but mon likely to remain localized.

sanious p., ichorous p. stained with blood.

pus tu lant (pus cha-lant). 1. Causing a pustular cruption. 2 An

pus tu lar (pus chu-lar). Relating to or marked by pustules. agent producing pastules. pus tu la tion (pus cha-la han). The formation or the presence

pus tule (parchul). A small curcumscribed elevation of the sun, CONTRIBUTE PURILLE MUNICIPAL (L PUSTULO)

malignant p., SYN CULLICOUS anthrax postmertem p., obsolete term for an alcer, usually on the back. le, resulting from infection during a dissection or the perform

spongiform p. of Koguj, an epidermal p. formed by intilvation of neutrophils into necrotic epidermis in which the cell wall persist as a spongelike network; seen in pusitive psonasis

pus to li form (pas cho-li-form) Having the appearance of

pus tu lo crus ta ceous (pus chú-lō-krūs-tā shūs). Marked by pustules crusted with dry pus.

pus tu lo-sis (pus-chu-lo-sis). 1. An eruption of pustules ? Term occasionally used to designate acropustulosis. [L. pustuff pustule. + G -osts. condition]

p. palmar is et plantar is, a stenie pustular eruption of the fingers and toes, variously atmouted to dyshidrosis, purity psonasis, and unidentified bacterial infection SYN acrodemuni continua, acrodermantis perstans, dermantis repetis, Haliopean

p. vaccinifor mis acu to, STN occents herpeucum.

Pu ra-men (pyū-tā'men) [NA]. The outer, larger, and dance sa of the three portions into which the lenticular nucleus is divide by laminae of white fibers; it is connected with the cause nucleus by bridging bands of gray substance that penetrals internal capsule. Its histological sometime is similar to that of caudate nucleus together with which it composes the snum SEE ALSO SMARE body, lenticular nucleus. [L. that which falls if in pruning. fr. puto, to prune)

Putnam, lames 1, US neurologist, 1846-1918, see P. De

pu-tre fac tion (pyū-tri-fak'shūn). Decomposition or roung breakdown of organic matter usually by bacterial action, in ing in the formation of other substances of less complex confi tion with the evolution of ammonia or its derivatives and higher sufficient characterized usually by the presence of total mulcidorous products. gen sulfide; characterized usually by the present of the infection, in malodorous products. SYN decay (2), decomposition [L. particular of the infection, in the infection of th facio. pp. -factus, to make jotten)

pu-tre-fac tive (pyu-tri-fak'uv). Relating to or causing puri

pu-tre-fy (pyd'tri-fi). To cause to become, or to become, page pu tres cence (pyd-mes'ens). The state of putrefaction.

Pu tres cent (pyū-tres ent). Denoting, or in the process of p Put tres cent (pyū-tres ent). Denoting, or in the process of R. Andrews particula faction. [L. putresco, to grow rotten, fr. puter, rotten] the particular process cine (pyū-tres ein). NH<sub>2</sub>(CH<sub>2</sub>), NH<sub>2</sub>; 1.4-Diaminolular process of R. Putres eine (pyū-tres eine). NH<sub>2</sub>(CH<sub>2</sub>), NH<sub>2</sub>; 1.4-Diaminolular process of R. Putres eine (pyū-tres eine). NH<sub>2</sub>(CH<sub>2</sub>), NH<sub>2</sub>; 1.4-Diaminolular process of R. Putres eine particular particular process of R. Putres eine particular particular

u-tres cine (pyd-tres en). Nrg(Cro), 1772, 1.70 acid, are a poisonous polyamine formed from the amino acid, are

putrescine

is a precursor to 7-8 bir frid (bag, rud) purctaction. [L. pui Putti, Vinono, Ital non. procedure. PUVA ACTORYM fc sequent exposure ! men to acut beough PVC Abbreviation f PVP ADDICVISION f p with a sub-scrip ly constant. PWM ADDREVISION

quing putrefaction;

py ar-thro-sis (pipyon. pus. + arthre Opycno-. SEE PYKNO Apyel -. SEE Pyelo-

py e lee ta sis, py Distion of the pe

py-e-lic-ic (pi-e-lit py cilitis (pi-e-li') Obsolescent term أالعث

Apyelu-, pycl-. Pel Lub, val) py e lo cal i ce al

AIR AUCH COTICES : 7, py e lo cul i ec ta py e lo-cal y-ce-a py-e-lo-cys-ti-tis priving and the t liganusiou)

py e-lo-flu-o rosaminanon of the ton of contrast n `po v15-#} pyel-o-gram (pi

graphs of the I

commet medium pye log ra phy per bux strong countries shout ci wereal or nephi stography, pyel G. graphö, to 🗻 wegrade p., as in injected into I BITHYEROUS D. Preprograde p., waces from an py e lo-li-thot-o i calculus from gin be in gith ote 🛧 फारहे, वाटाघाठा pelo-lym ph

igni fence p., active Characterized t the medulia de aconding p

HIS of the rem

Nelone phri

icnchyma, ca

ouring puttefaction; found in unne and feces; in certain cells, p. is a precursor to Tamunobutyrate

putrid (pyurtid). 1. In a state of putrefaction. 2. Denoting purctacuon [L. puridus]

Putti, Vittorio, Italian surgeon, 1880-1940 see P.-Platt operanon, procedure.

PUVA Acronym for oral administration of psoralen and subsequent exposure to long wavelength ultraviolet light (wv-q); used to treat psomasis.

PVC Appreviation for polyvinyl chloride.

PVP Appreviation for polyvinylpyrrolidone.

p with a sub script for the ton. Abbreviation for penneability constant.

PWM Abbreviation for pokeweed intlogen

py ar thro sis (pi-ar-thro sis). STN suppurative writeries. [G. pyon, pus, + arthrosis, a jointing]

Друспо- чее рукло-. (Apyel-. SRE pyelo-

py e lec ta sis, py e lec ta sia (pî-é-lek tā-sis, pī-è-lek-tā'zā-ā). Dilation of the pelvis of the kidney [pyel- + G. ektaris, exten-

pyeditic (pi-editik). Relating to pyelitis.

py e-li-tis (pi-é-li ns). L. Inflammation of the renal pelvis 2.

Obsolescent term for pyetonephritis. [pyel- + G. -tiis inflamma-

pyelo-, pyel-. Pelvis, usually the renal pelvis. [G pyclos, trough, IUD V41

py e-lo cal i-ce-al (př.ě-)ō-kal'i-sē'àl). Relating to the renal pelvis and calices. SYN pyelocalycoal.

py e-lo cal lec ta sis (pře-lō-kal'ô-ch'tā-sis). Syn unitectasia.

pye lo cal y ce al (pře-lo-kal'i-ac'al). Sym pyelovalicaul.

pyelo-cys ti-tis (pi-e-io-sis-tilis) Inflammation of the tenal felus and the bladder. [pyelo- + G. kystis, bladder, + -iis. inflammation]

py e lo flu-u-ros-co-py (přě-lo-fluc-os/ko-pe). Fluoroscopic exminution of the renal polyes and ureters, following administrapon of contrast medium [pyelo- + L. fluo, to flow, + G skoped,

yel-o-gram (přel-o-gram). A radiograph or series of radiographs of the renal pelvis and ureter, following injection of

re log-ra phy (pre-log ra-fe). Radiologic study of the kidney, brees, and usually the bladder, performed with the aid of a formest agent either injected intravenously, or directly through a greeral or nephrostomy catheter or percutaneously. San pelviuremography, pyeloureterography, uteteropyelography. [pyelo- + G grupho, to write]

stegrade p., antegrade urography in which the contrast medium injected into the renal calices or pelvis

Biravenous p. (TVP), former name for intravenous urography. trograde p., p. in which contrast material is injected into the frem from an endoscope in the bladder

eto li-thor o-my (pře-lō-li-thor ó-mē) Operative removal of alculus from the kidney through an meiston in the renal petvis. in pelvilithotomy, pelviolithotomy. [pyelo- + G. lathos, stone, me uncision

clolym phat ic (pre-lo-lim-farik) Perraining to the lymph-

elo ne phri-tis (pi'e-lo-ne-fri us). Inflammation of the tenal ufection [pyelo- + G. nephros, kidney, + -ins, inflammaentryma, catyces, and polyts, particularly due to local bacte-

p, scute inflammation of the renal parenchyma and pelvis practicized by small corneal abscesses and yellowish smeaks in medulla due to pus in the collecting rubules and interstitual

reading p., p. due to bacterial infection from the lower urinary particularly by reflux of infected urine

mode p., chronic inflammation of the renal parenchyma and Vis resulting from bacterial infection, characterized by calyceal deformities and overlying large flat renal scars with patchy

contagious bovine p., a specific necrotising inflammation of the renal pelvis and wreters of earthe, caused by infection with Corynebacierum renale.

anthogranulomatous p., a chronic inflammatory condition diffusely involving the entire kidney and usually resulting in a grossly enlarged and functionless kidney which can grossly resemble a neoplasm or tuberculous; histologically, it is characterized by an inflammatory reaction with numerous tipid-laden, foamy histocytes mixed with lymphocytes and plasma cells to form multiple granulomas

py e-lo-ne phro-sis (pře-lo-ne-fro sis). Obsolete term for any disease of the pelvis of the kidney. [pyclo- + G. nephros, kidney, + -osis, condition]

py-e-lo-plas-ty (pre-10-plas-te). Surgical reconstruction of the kidney pelvis to correct an obstruction. SYN petvioplasty (2). [pyelo- + G plastos, tonned]

Anderson-Hynes p., disjoined or dismembered p.

capsular flap p., a reconstructive procedure for correction of ateropelvic obstruction, whereby a flap of renal capsule is swung down from the renal littus to enlarge an obstructed intrurenal pelvis and apper areas, used to correct situations involving loss of renal privic usage which preclude the use of renal polvis for the reconstruction.

Culp p., a reconstructive technique for correction of uteropelvic obstruction, whereby a spirit flap of renal pelvis is brought down and interposed into a vertical incision in the ureter SEE ALSO Scardino vertical flap p.

disjoined p., dismembered p., a reconstructive procedure for correction of arcteropetric obstruction, whereby the obstructed segment is resected and the upper victor reanastomosed into the tower renal pelvis, usually unliving a modified elliptical anasiomotic technique.

Foley Y-plasty p., a reconstructive procedure for correction of uneuropeivic obstruction, whereby a Y-shaped flap of renal pelvis is advanced downward into a vertical incision in the apper ureter, thereby widening the ureteropelvic junction >10 foley

Scardino vertical flap p., a reconstructive technique for correction of uteropeivic obstruction, whereby a vertical flap of renal pelvis is prolight down and interposed into a vertical incision in the ureser. Cf. Culp p.

py e-lo-pli-ca tion (pi è-io-pli-kā'shun) An obsolete procedure of taking nicks in the wall of the renut pelvis when and ity dilated by a hydronephrosis. [pyelo + L plico to fold]

py·e·los co·py (pī-e-ios'kō-pē) Fluoroscopic observation of the pelvis and calices of the kidney, and the areter, after the injection through the areter of an opaque solution. [pyelo- + G. skopeō to

py-e-los-to-my (pi-ė-los'tō-mė). Formation of an opening into the kidney pelvis to establish urmary drainage. (pycto- + G stonus, mouth]

py e lot o my (pi-é-lor o-me). Incision into the pelvis of the kidney, syn pelviotomy (3), pelvitomy [pyclo- + G. tomē. INCISION

extended po catension of a standard p. into the lower pole infundibulum through the avancular plane between the posterior and basilar segmental renal arteries syn Gil-Vernet operation.

py e-lo-u-re-ter-ec-ta-sis (př.č-lo-yb-tě/ter-ek/tā-sis). Dilation of kidney pelvis and areter, seen in hydronephrosis due to obstruction in the lower prinary tract [pyelo- + uterer + G. ekiasis, वुग्धात्राज्यार ह

py-e-lo-u-re-ter og-ra-phy (pře-lö-yū-re-ter-og/rá-tē). SYN pyc-

py e-lo-ve-nous (pi e-lo-ve nas). Denoting the phenomenon of drainage from the renal pelvis into the tenut veins from increased minapelvic pressure. [pyelo- + venous]

py-em e-sis (pī-em'ē-sis). The vomiting of pus [G. pyoñ, pus, ▼ emests, vomiting)

py e-mia (pī-ē'mē-a). Septicemia due to pyogenic organisms

alid 02/2003 - 04/2003

igma Chemical Co. 1.0. Box 14508

it. Louis, MO 63178 USA

:el: 314-771-5765

# MATERIAL SAFETY DATA SHEET

SECTION 1. - - - - - - - CHEMICAL IDENTIFICATION- - - - - -

CATALOG #:

SODIUM SELENITE GAMMA-IRRADIATED CELL NAME:

CULTURE TESTED

SECTION 2. - - - - COMPOSITION/INFORMATION ON INGREDIENTS - - - - -

CAS #: 10102-18-8

MF: NA203SE

EC NO: 233-267-9

SYNONYMS

DISODIUM SELENITE - NATRIUMSELENIT (GERMAN) \* SECTION 3. - - - - - - - HAZARDS IDENTIFICATION - - - "

LABEL PRECAUTIONARY STATEMENTS

HIGHLY TOXIC (USA)

VERY TOXIC (EU)

TOXIC BY INHALATION.

VERY TOXIC IF SWALLOWED.

DANGER OF CUMULATIVE EFFECTS.

LIMITED EVIDENCE OF CARCINOGENIC EFFECT.

RISK OF SERIOUS DAMAGE TO EYES. VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-TERM ADVERSE

EFFECTS IN THE AQUATIC ENVIRONMENT.

POSSIBLE MUTAGEN.

TARGET ORGAN(S):

LIVER

BLOOD

CAUSES SEVERE EYE IRRITATION.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY WITH PLENTY OF

WATER AND SEEK MEDICAL ADVICE. AFTER CONTACT WITH SKIN, WASH IMMEDIATELY WITH PLENTY OF SOAP SUDS. IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, SEEK MEDICAL ADVICE

IMMEDIATELY (SHOW THE LABEL WHERE POSSIBLE) THIS MATERIAL AND ITS CONTAINER MUST BE DISPOSED OF AS

AVOID RELEASE TO THE ENVIRONMENT. REFER TO SPECIAL INSTRUCTIONS/

SAFETY DATA SHEETS.

IF SWALLOWED, WASH OUT MOUTH WITH WATER PROVIDED PERSON IS CONSCIOUS.

CALL A PHYSICIAN IMMEDIATELY.

IF INHALED, REMOVE TO FRESH AIR. IF NOT BREATHING GIVE ARTIFICIAL

RESPIRATION. IF BREATHING IS DIFFICULT, GIVE OXYGEN.

IN CASE OF SKIN CONTACT, FLUSH WITH COPIOUS AMOUNTS OF WATER

FOR AT LEAST 15 MINUTES. REMOVE CONTAMINATED CLOTHING AND

IN CASE OF CONTACT WITH EYES, FLUSH WITH COPIOUS AMOUNTS OF WATER FOR AT LEAST 15 MINUTES. ASSURE ADEQUATE FLUSHING BY SEPARATING

THE EYELIDS WITH FINGERS. CALL A PHYSICIAN.

SECTION 5. - - - - - - FIRE FIGHTING MEASURES - - - - -

EXTINGUISHING MEDIA

NONCOMBUSTIBLE.

3/2"

```
USE EXTINGUISHING MEDIA APPROPRIATE TO SURROUNDING FIRE CONDITIONS.
  WEAR SELF-CONTAINED BREATHING APPARATUS AND PROTECTIVE CLOTHING TO
SPECIAL FIREFIGHTING PROCEDURES
  PREVENT CONTACT WITH SKIN AND EYES.
 UNUSUAL FIRE AND EXPLOSIONS HAZARDS
  EMITS TOXIC FUMES UNDER FIRE CONDITIONS.
ECTION 6. - - - - - ACCIDENTAL RELEASE MEASURES - - - - - - -
   WEAR SELF-CONTAINED BREATHING APPARATUS, RUBBER BOOTS AND HEAVY
   SWEEP UP, PLACE IN A BAG AND HOLD FOR WASTE DISPOSAL.
   VENTILATE AREA AND WASH SPILL SITE AFTER MATERIAL PICKUP IS COMPLETE.
   AVOID RAISING DUST.
SECTION 8. - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION- - - - -
   SAFETY SHOWER AND EYE BATH.
   USE ONLY IN A CHEMICAL FUME HOOD.
   WASH CONTAMINATED CLOTHING BEFORE REUSE.
   WASH THOROUGHLY AFTER HANDLING.
    DO NOT BREATHE DUST.
    DO NOT GET IN EYES, ON SKIN. ON CLOTHING.
    AVOID PROLONGED OR REPEATED EXPOSURE.
    NIOSH/MSHA-APPROVED RESPIRATOR.
    COMPATIBLE CHEMICAL-RESISTANT GLOVES.
    CHEMICAL SAFETY GOGGLES.
    KEEP TIGHTLY CLOSED.
 SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -
  PHYSICAL PROPERTIES
                       350 C
    MELTING POINT:
 SECTION 10. ------STABILITY AND REACTIVITY -----
   STABILITY
     STABLE.
   INCOMPATIBILITIES
     PROTECT FROM MOISTURE.
   HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS
     STRONG ACIDS
     SELENIUM/SELENIUM OXIDES
   HAZARDOUS POLYMERIZATION
  SECTION 11. - - - - - TOXICOLOGICAL INFORMATION - - -
   ACUTE EFFECTS
     MAY CAUSE SKIN IRRITATION.
     MAY BE HARMFUL IF ABSORBED THROUGH THE SKIN.
      CAUSES SEVERE EYE IRRITATION.
      MATERIAL MAY BE IRRITATING TO MUCOUS MEMBRANES AND UPPER
      RESPIRATORY TRACT.
      TOXIC IF INHALED.
      MAY BE FATAL IF SWALLOWED.
      EXPOSURE CAN CAUSE:
      NAUSEA, DIZZINESS AND HEADACHE
      ANEMIA
      SALIVATION
      TREMORS
      ALOPECIA
      VOMITING
      DERMATITIS
     CHRONIC EFFECTS
       TARGET ORGAN(S):
       LIVER
       BLOOD
```

KIDNEYS

```
CLASSIFICATION.
RTECS #: VS7350000
 SELENIOUS ACID. DISODIUM SALT
                                               TXAPA9 20,89,1971
TOXICITY DATA
 ORL-RAT LD50:7 MG/KG
                                              EQSSDX 1,1,1975
  IVN-RAT LD50:3 MG/KG
                                              CTOXAO 17,171,1980
  PAR-RAT LD50:6570 UG/KG
                                              GISAAA 35(2),14,1970
  ORL-MUS LD50:7080 UG/KG
                                              SAIGBL 17,491,1975
  SCU-MUS LD50:13 MG/KG
                                               NRTXDN 2,383,1981
  IVN-MUS LD50-S MG/KG
                                               NRTXDN 2,383,1981
  ICV-MUS LD50:300 UG/KG
                                               PSDAA2 36,173,1957
  IVN-DOG LD50:1916 UG/KG
                                               HYSAAV
  ORL-RBT LD50:2250 UG/KG
                                               AXVMAW 30,627,1976
   35(1-3),176,1970
  IMS-RBT LD50:2530 UG/KG
                                               GISAAA 35(2),14,1970
  ORL-GPG LD50:5060 UG/KG
                                               NEPHBW 25,493,1990
  PAR-CKN LD50:8500 UG/KG
                                               AJVRAH 41,1925,1980
  ORL-HOR LD50:13 MG/KG
                                               VHTODE 29,233,1987
  IMS-DOM LDS0:1533 UG/KG
   BRAIN AND COVERINGS (RECORDINGS FROM SPECIFIC AREAS OF CNS)
 TARGET ORGAN DATA
   PERIPHERAL NERVE AND SENSATION (FLACCID PARALYSIS WITHOUT ANESTHESIA)
   SENSE ORGANS AND SPECIAL SENSES (OTHER OLFACTION EFFECTS)
   BEHAVIORAL (SOMNOLENCE)
   BEHAVIORAL (CONVULSIONS OR EFFECT ON SEIZURE THRESHOLD)
   BEHAVIORAL (CHANGE IN MOTOR ACTIVITY)
   BEHAVIORAL (MUSCLE CONTRACTION OR SPASTICITY)
   CARDIAC (ARRYTHMIAS)
   CARDIAC (PULSE RATE INCREASED WITHOUT FALL IN BP)
   CARDIAC (OTHER CHANGES)
   LUNGS, THORAX OR RESPIRATION (ACUTE PULMONARY EDEMA)
   LUNGS, THORAX OR RESPIRATION (DYSPNAE)
   LUNGS, THORAX OR RESPIRATION (CYANOSIS)
   LUNGS, THORAX OR RESPIRATION (RESPIRATORY STIMULATION)
   LUNGS, THORAX OR RESPIRATION (OTHER CHANGES)
    GASTROINTESTINAL (CHANGES IN STRUCTURE OR FUNCTION OF SALIVARY GLANDS)
    GASTROINTESTINAL (HYPERMOTILITY, DIARRHEA)
    GASTROINTESTINAL (NAUSEA OR VOMITING)
    ENDOCRINE (HYPOGLYCEMIA)
    PATERNAL EFFECTS (SPERMATOGENESIS)
    PATERNAL EFFECTS (TESTES, EPIDIDYMIS, SPERM DUCT)
    PATERNAL EFFECTS (OTHER EFFECTS ON MALE)
    MATERNAL EFFECTS (UTERUS, CERVIX, VAGINA)
    EFFECTS ON PERTILITY (POST-IMPLANTATION MORTALITY)
    EFFECTS ON FERTILITY (LITTER SIZE)
    EFFECTS ON EMBRYO OR FETUS (EXTRA EMBRYONIC STRUCTURES)
    EFFECTS ON EMBRYO OR FETUS (FETOTOXICITY)
    EFFECTS ON NEWBORN (LIVE BIRTH INDEX)
    EFFECTS ON NEWBORN (VIABILITY INDEX)
     EFFECTS ON NEWBORN (WEANING OR LACTATION INDEX)
     EFFECTS ON NEWBORN (GROWTH STATISTICS)
     NUTRITIONAL AND GROSS METABOLIC (WEIGHT LOSS OR DECREASED WEIGHT GAIN)
     ONLY SELECTED REGISTRY OF TOXIC EFFECTS OF CHEMICAL SUBSTANCES
     (RTECS) DATA IS PRESENTED HERE. SEE ACTUAL ENTRY IN RTECS FOR
 SECTION 13. - - - - - DISPOSAL CONSIDERATIONS - - - - - - -
     CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF
     THIS MATERIAL.
     ... aldrich com/cgi-bin/gx.cgi/Applogic+MSDSInfo.ReturnMSDS
```

EPA GENETOX PROGRAM 1988, POSITIVE/DOSE RESPONSE: IN VITRO SCE-HUMAN

EPA GENETOX PROGRAM 1988, POSITIVE/DOSE RESPONSE: IN VITRO SCE-HUMAN EPA GENETOX PROGRAM 1988, POSITIVE/DOSE RESPONSE: IN VITRO UDS-HUMAN

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EPA TSCA SECTION 8 (B) CHEMICAL INVENTORY

EPA TSCA SECTION 8(E) RISK NOTIFICATION, 8EHQ-0892-9100

EPA TSCA TEST SUBMISSION (TSCATS) DATA BASE, JANUARY 2001

NTP TOXICITY STUDIES, RPT# TOX-38, OCTOBER 2000

U.S. INFORMATION

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